

Claims

- 1) A pneumatic device for personal protection (10), of the kind having at least one sac-like gas-tight element (11) connectable through an inlet box (25) to automatically releasing inflating means and attaching means (14,15) co-operating, in working position, with the body of a user so that the sac-like element (11) is kept in a position which corresponds to the portion of the body to be protected, wherein said sac-like element (11) encloses a variable volume chamber (13) which is intended to be filled with a gas introduced therein via said inlet box (25), characterised in that the chamber (13) comprises inside flexible partition members (P) extending lengthwise a greater side of the chamber (13) and connected along their edges extending lengthwise to two opposite walls (12) of the chamber (13), whereby said flexible partition members (P) divide the chamber (13) into a plurality of compartments (20,21,22) arranged one next to another and in fluid communication with each other.
- 2) The pneumatic device for personal protection according to claim 1, characterised in that the sac-like gas-tight element (11) comprises three portions (11A,11B,11C) for protecting the cervix portion, the dorsum portion and the sacrum portion, respectively, of the spinal column of the user, the portions (11A,11C) of the sac-like element (11) being intended to be folded upon the portion (11B) when the sac-like element (11) is in the deflated condition.
- 3) The pneumatic device for personal protection according to claim 1, characterised in that the sac-like gas-tight element (11) comprises a pair of impervious or adequately gas-tight (controlled permeability) sheets (12) sealed together at the respective edges, said sheets (12) being joined together and enclosing the variable volume chamber (13) into which an adequate amount of gas is introduced to inflate the sac-like element (11).
- 4) The pneumatic device for personal protection according to one or more of the preceding claims, characterised in that it is removably attached to a protective article of clothing (26) or removably incorporated in an internal

lining of the protective article of clothing, said protective article of clothing (26) exhibiting two pivotable attachments or flaps (27,28) connected to its upper and lower portion, respectively, a back portion (29) and a front portion (31), said attachments or flaps(27,28), in normal use conditions, being releasably fastened to the back (29) of the protective article of clothing (26) and having each the form of a pocket for containing one of the portions (11A,11C) of the sac-like element (11).

5) The pneumatic device for personal protection according to claim 4, characterised in that the attachments or flaps (27,28) are attached to the back (29) of the protective article of clothing (26) by means of releasable touch-and-close fastening means.

6) The pneumatic device for personal protection according to claim 5, characterised in that the touch-and-close fastening means (30) are designed so that during inflation of the sac-like element (11) a simultaneous unfolding of the attachments or flaps (27,28) is permitted.

7) The pneumatic device for personal protection according to claim 4, characterised in that the protective article of clothing (26) exhibits resilient inserts (32) arranged between the back portion (29) and the front portion (31), on the shoulders and the sides, said resilient inserts (32) permitting the sac-like element (11) to expand during inflation without causing constriction to the user and giving him freedom of movement.